



INTEL740 Series

VER 1.2

NO:MMMVN001-12E6RA

User's Manual

Intel740TM Chip

Pervasive 3D and multimedia processor

Installation Guide

Version 1.2

08/98

Trademark Acknowledgments

Microsoft is registered trademarks of Microsoft Corporation.
Powerstrip is trademark of Entech International Corporation.
Intel740 is trademark of Intel Corporation.



MMMVN001-12E6RA

FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference.
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- . Reorient or relocate the receiving antenna.
- . Increase the separation between the equipment and receiver.
- . Plug the computer into a different outlet so that the two devices are on different branch circuits.
- . If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

Warning:

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CSA Notice:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

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Intel 740 Series Important Notice

First, many thanks for your support of our products. Since many users are using different platforms and running different operating systems, in some cases, you might need to update your system for proper running Intel 740, please check the following cases,

1. Currently, since AGP is still a new technology, we can only finish our test on Intel® 440LX/440BX based mainboard with Intel 740.
2. For Windows® 95 (not OSR 2.0/2.1) users, you need to update your system to Windows 95 OSR 2.1 or later for proper running Intel 740. Please check Microsoft® (<http://www.microsoft.com>) for update information.
3. For Windows 95 OSR 2.0 users, you need to update your system with USBSUPP.EXE from Microsoft to proper running Intel 740. You may check Microsoft for update information.
4. Please make sure the AGP support program came from your main board supplier are installed. You need to contact your main board or system supplier for their AGP support program.
5. Please install the "82371xB Intel Update Installer", file name is "82371AB.exe." You may find this program from Intel web page (www.intel.com) or relative web page (e.g., www.gainward.com). This program will remove all the question marks shown in Windows95 system control panel.
6. Before installing the video driver, please install the Windows NT service pack 3 package first (or please download these drivers from Microsoft web site), otherwise the PowerStrip Utility will not work correctly.

Since all the update programs are belong to their original supplier, we can not include them in our Driver CD. Thanks for your understanding.

1

Overview

Congratulation on the purchase of your VGA board! You are now the owner of a state-of-the-art video adapter that offers features and functionality equal to, and beyond any other in the VGA class.

FEATURES

- High-performance 2D/3D Intel 740 Graphics Accelerator
- 2x Full Sideband AGP Support
- 3D Setup Engine support Flat and Gouraud Shading, MIP-Mapping with Bilinear Filtering, Color Alpha Blending for Transparency, Real-Time Texture Paging and Video Texturing, fogging and Atmospheric Effects, Specular Lighting, Edge Anti-Aliasing, Stippling or "Screen Door" Transparency, Backface Culling, Z Buffering.
- NTSC and PAL TV Out Support (Option)
- Maximum Resolution Up To **1600x1200x8@75Hz**
- Maximum Refresh Rate 85Hz on 1024x768 resolution
- Display Memory support 2/4/8 MB SGRAM or 8MB SDRAM
- Full Bi-direction VMI CCIR601 Video Port
- Software MPEG I/DVD playback
- Support Hardware DVD playback (Option)
- VESA DDC/DPMS support

DRIVER SUPPORT

- Microsoft Windows NT4.0
- Microsoft Windows NT5.0 (Option)
- Microsoft Windows 95 OSR2.1
- Windows 98
- OpenGL (Option)
- DirectX 5.0

CAUTION !

Static electricity can severely damage electronic parts. Take these precautions:

- Before touching any electronic parts, drain the static electricity from your body. You can do this by touching the internal metal frame of your computer while it's unplugged.
- Don't remove a card from the anti-static container it shipped in until you're ready to install it. When you remove a card from your computer, place it back in its container.
- Don't let your clothes touch any electronic parts.
- When handling a card, hold it by its edges, and avoid touching its circuitry.

Before You Begin

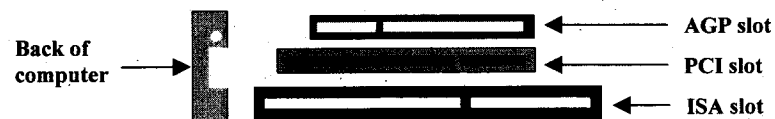
Before you proceed further, make sure your computer system meets the peripheral requirements and switch to the standard VGA display driver.

Prepare Your Computer for Installation

Prior to working on your computer, make sure the power of the computer and any related equipment is turned off.

Select a Vacant Expansion PCI (AGP) Slot

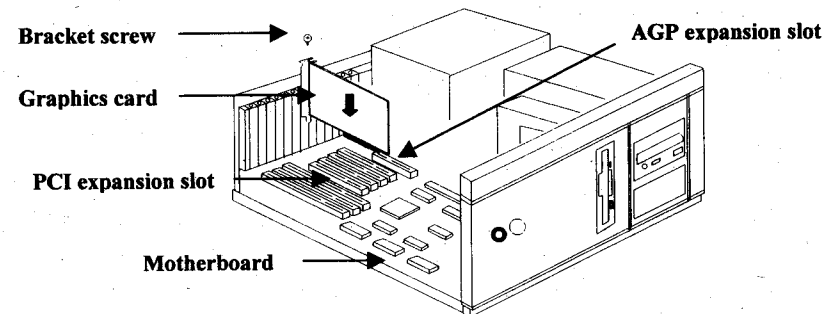
Most AGP (PCI) bus computers have a combination of AGP (PCI) and ISA expansion slots. AGP (PCI) are usually made with plastic of a contrasting brown color (beige color), and are shorter than other slots in your computer. Your system manual should identify the AGP (PCI) slots. Plugging your Graphic card into a non-AGP (PCI) slot could damage the card, your computer, or both.



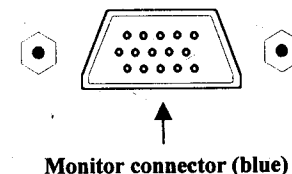
AGP vs. PCI vs. ISA expansion slots

Insert your Graphic Card

Remove the cover for the slot you intend to use and save the screw for the mounting bracket. Then, pick up the Graphic card and position it over the expansion slot you've chosen. Push the card with firmly and evenly until it's fully seated in the slot. Replace the screw to secure the bracket of the Graphic card to the computer chassis.

**Connect the monitor**

Plug your monitor cable into the monitor connector on your Graphic card. Make sure the other end of the monitor cable is properly connected to your monitor.



Monitor connector (blue)

CAUTION !

- Before installing the Display driver, make sure your Windows 95 is installed in VGA mode and work fine.
- Please install the DirectX before you want to play the MPEG Movie Player.

Installation of the Windows 95/98 drivers and utilities is a two-step procedure: (1) first install the Windows 95/98 Utilities using the Setup program, and then (2) install the Windows 95/98 drivers using standard Windows 95/98 procedures. Although we do not recommend this, you can install the display drivers for Windows 95/98 without installing the support files.

SETUP VGA MODE

Click the right mouse button anywhere on the Windows 95/98 desktop and select Properties from the pop-up menu that appears on screen. Select **Settings | Change Display Type** and then click the **[Change]** button for Adapter Type. When the Select Device dialog box appears on the screen, please select **[Standard display types]** from the manufactures and select **Standard Display Adapter (VGA)** from the Models then click **OK** button.

SETUP DRIVER

1. Turn on your computer and start Windows 95/98.
2. Insert the **Driver CD** into your CD-ROM driver.
3. Type **D:\CDSETUP [Enter]** in the Run dialog box.
4. The PowerStrip Setup Wizard dialog box will appear on the screen, please follow the instruction to install.
5. In Display Properties, select **Settings | Change Display Type** (If you use the OSR2 please select **Settings | Advanced Properties**. If you use the Win98 please select **Settings | Advanced**) and then click the **[Change]** button for Adapter Type.
6. In Win98, the Update Device Driver Wizard dialog box will appear, please click "next" button and follow the instruction on screen to install.
7. When the Select Device dialog box appears on screen, click the **[Have Disk]** button and enter the path to the driver installation diskette (e.g., D:\win95). Click "**OK**".
8. Select the Correct VGA mode (e.g., Intel740), then click **OK** button. Finally click **Apply** button to restart your computer.

CAUTION !

- Before installing the video driver, make sure your Windows NT is installed in VGA mode and work fine.
- Before installing the video driver, please install the Windows NT service pack 3 package first (or please download these drivers from Microsoft web site), otherwise the PowerStrip Utility will not work correctly.

If you are running Windows NT, please note that drivers for NT are not compatible with earlier releases of NT, and *vice versa*. Consult your dealer, local user support groups or on-line services from time to time to ensure you have the latest release for the version of NT you are running.

To install the optimized display drivers for Windows NT, you must be running NT and follow Microsoft standard display driver installation procedure as documented in the NT user manual. Note the somewhat different installation procedures between NT and earlier release below.

SETUP DRIVER

1. Turn on your computer and start Windows NT.
2. Insert the **Driver CD** into your CD-ROM driver.
3. Type **D:\CDSETUP [Enter]** in the Run dialog box.
4. The PowerStrip Setup Wizard dialog box will appear on the screen, please follow the instruction to install.
5. In Display Properties, select **Settings | Display Type** and then click the **[Change]** button for Adapter Type.
6. When the Change Display dialog box appears on screen, click the **[Have Disk]** button and enter the path to the driver installation diskette (e.g., D:\winNT4). Click "**OK**".
7. Select the Correct VGA mode (e.g., Intel740), then click **OK** button to restart your computer.

Windows 95/NT Display Properties

Windows 95/NT allows you to select resolution, color depth, refresh frequency and font size using the standard Windows 95/NT Display Properties sheet, which can be accessed by right clicking anywhere on the Windows 95/NT desktop, and then selecting Properties from the pop-up menu that appears on screen.

OpenGL for Windows 95 and NT

The OpenGL Driver for Windows 95/NT is install at the same time as the installation of the Windows 95/NT drivers. See the Windows 95/NT installation instructions for further information.

CAUTION !

- For maximum compatibility and flexibility, the PowerStrip can be loaded and unloaded dynamically, but note that many of the features it provides are only available while the PowerStrip is running.

The PowerStrip is a display control and desktop enhancement utility for Windows 95/NT, specially designed and optimized for use with your graphics accelerator. You should think of the PowerStrip as a kind of supplementary "device driver" which works in conjunction with your accelerator's display driver.

Installation

The PowerStrip is automatically installed when you use the Setup program under windows 95/NT (refer to Chapter 3-4). After you finish the installation, the About the PowerStrip dialog box will appear on the screen, then click "OK". Then click **Programs | PowerStrip | PowerStrip** (Figure 5-1) or double click on the "Monitor" | **Show PowerStrip Configuration** (Figure 5-2) icon in the System tray to show the PowerStrip Properties on your screen. (Figure 5-3)

Note: If you need the more information that is referred to the pstrip.doc file or on line help where locate at **Programs | PowerStrip | Online Documentation**. (Figure 5-1)

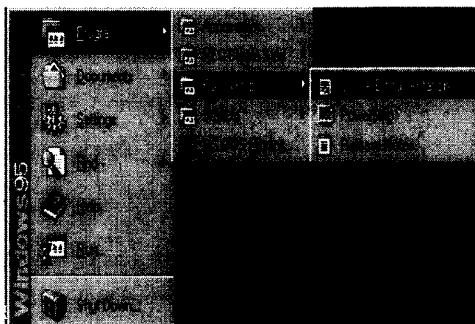


Figure 5-1



Figure 5-2



Figure 5-3 PowerStrip toolbar

TV-Out for Windows

You can set the TV-Out function by click the right mouse button anywhere on the Windows 95/98 desktop and select Properties from the pop-up menu that appears on screen. Select TV Out from Display Properties. (Figure 5-4)

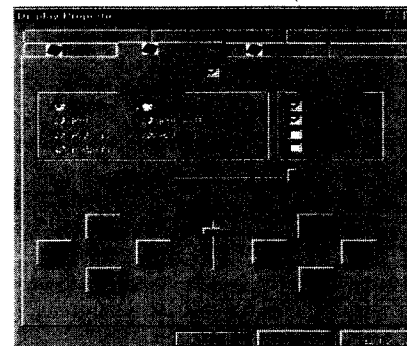


Figure 5-4

Jumper JP1 Setting:

JP1-2 : For PAL System
JP2-3 : For NTSC System

Enabled: This checkbox determines if output to an attached TV monitor is enabled. If this checkbox is disabled, changing the current state of the output is not allowed.

Video Format: Select the NTSC or PAL format for video output to the TV monitor.

S-Video: Output S-Video

Composite: Output composite Video

Luma: Output luminance

Chroma: Output chrominance

Flicker Fliter: This slider changes the amount of flicker filtering when that is done. The farther the slider is to the right, the more flicker filtering is done.

Brightness: This slider changes the amount of brightness output to the TV monitor. The more the slider is raised, the more brighter output is done.

Position: Click the arrow button to change the TV Out position.

Size: Click the arrow button to change the TV Out size.

Display Memory Configuration

Memory-Resolution/Color

	2MB		
	256 color	64K color	16.7M color
640x480	85Hz	85Hz	85Hz
800x600	85Hz	85Hz	85Hz
1024x768	85Hz	85Hz	-
1280x1024	75Hz	-	-
1600x1200	75Hz	-	-

	4/8MB		
	256 color	64K color	16.7M color
640x480	85Hz	85Hz	85Hz
800x600	85Hz	85Hz	85Hz
1024x768	85Hz	85Hz	85Hz
1280x1024	75Hz	75Hz	-
1600x1200	75Hz	-	-

Monitor Connector Pin Assignments

Pin no.	Function	Pin no.	Function
1	Red Video	9	Key (no connection)
2	Green Video	10	Sync Return (ground)
3	Blue Video	11	NC
4	NC	12	DDC DATA
5	Ground	13	Horizontal Sync
6	Red Return (ground)	14	Vertical Sync
7	Green Return (ground)	15	DDC CLOCK
8	Blue Return (ground)		

Problem: Software programs will not run with the drivers.

Solution:

1. Try running the software with standard VGA drivers supplied with the application program. Most software programs have standard IBM VGA drivers. If the program still does not work it may be a problem with the application software.
2. Removed all TSR (Terminate and Stay Resident) programs from your system (specially in DOS system) and try the program again.

Problem: How do I get the latest drivers for the card?

Solution: You can check with the relative web site to download them.

Problem: When I boot the computer the display is not black. It is a different color, such as blue.

Solution:

Check the monitor connection. Generally blue, or other color screens are related to improper connections between the video card and monitor cable.

Problem: I am using a high resolution multi-frequency monitor. The vertical refresh rate is set for 140Hz using 1024x768 resolution. When going into Windows or other graphics applications, my display size shrinks quit a bit on the screen.

Solution:

Use a slower vertical refresh rate. The vertical refresh rate may be set too high for the monitor to support it. The monitor may be compensating for the high frequency rate by reducing the screen size.

Problem: After installation and restarting, Windows 95 informs me that display setting is still incorrect. What can I do?

There may be conflict between previous and current display drivers. This is caused by not complete removal of previous display driver. Try the following steps to remove it:

Solution:

- (1) Use right button of mouse to click on "My Computer" icon on desktop.
- (2) Select "Properties" and "System Properties" box appears
- (3) Click on "Device Manager" tab
- (4) You will see a list of devices on your computer.
- (5) Open "Display adapters" in the list (double click it).
- (6) You will find two (or more) conflicted adapters listed here.
- (7) Remove all previous adapters by selecting them and press "Remove"
- (8) Close Device Manager and restart Windows 95.
- (9) Now display driver will work correctly.

Problem: After installing the driver, Windows 95 doesn't prompt me for restarting and the driver still doesn't work after I reboot it by myself.

You may have installed similar drivers before. Try the following steps to install:

Solution:

- (1) Use right button of mouse to click on "My Computer" icon on desktop.
- (2) Select "Properties" and "System Properties" box appears
- (3) Click on "Device Manager" tab
- (4) You will see a list of devices on your computer.
- (5) If "Display adapters" appears in the list, click it.
If "Display adapters" doesn't appear, jump to step 9 and continue.
- (6) The name of your card will be listed in the box. Double click it.
- (7) The properties box of your card appears. Select "Driver" tab.
- (8) Click "Change Driver.." and follow the installation steps.
- (9) Click "Other devices" you will see your card is listed.
- (10) Click on the name of card, the properties box appears.
Select "Driver" tab.
- (11) Click "Change Driver.." and follow the installation steps.

When you need advanced technique service, please Complete this form and FAX to your dealer.

Your name:

Phone :

Product S/N:

PCB NO.:

HARDWARE CONFIGURATION

Mainboard Chipset:	CPU Clock:	MHz
Mainboard CPU:	VGA Memory Type:	
Mainboard Memory:	MB	VGA Memory MB
Mainboard Brand:	VGA Memory Brand:	
Cache Memory:	KB	FDD/HDC Card:
Monitor:	Horizontal Freq. :	kHz to KHZ
	Vertical Freq. :	HZ to HZ

Other Cards on Mainboard:

Note:

SOFTWARE CONDITION
CONFIG.SYS:
AUTOEXEC.BAT:
Operation System or Test Program:
Application Software or Test Program:
Problem Description:
Note:

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